



# National Training Center Ft. Irwin, California

## **MEDICAL THREAT BRIEFING**

**Presenter's Name**  
**Presenter's Command**  
**Local Contact**

**Information**

Prepared by:  
U.S. Army Center for Health Promotion and Preventive  
Medicine

(800) 222-9698/ DSN 584-4375/(410) 436-4375

<http://usachnpm.anega.army.mil>



**STAGING AREA**



**Fort Irwin National Training Center**

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Pointer 35°15'37.41" N 116°40'16.61" W elev 2407 ft

Streaming ||||| 100%

Eye alt 13335 ft

# AGENDA

- Purpose
- Background
- Review of Guide to Staying Healthy
- Preparation for Deployment
- Deployment
- Post Deployment
- Summary
- Conclusion



# PURPOSE

Inform Deploying Personnel  
(Military and Civilian) of the  
Potential Health Hazards and  
the Individual  
Countermeasures Necessary to  
Assure Personal Safety and  
Health





# BACKGROUND

- US Forces are fighting a war on terror. NTC provides excellent training before entering the fight.
- Environmental, safety, and occupational health hazards are a potential medical threat to deployed personnel



**Historical accounts of wars, battles, and military training consistently relate that the greatest loss of forces was not caused by combat wounds - rather the majority of losses were the result of disease and non-battle injury (DNBI).**

# GUIDE TO STAYING HEALTHY

- Unfold YOUR *Deployment Health Guide*
- Personal Protective Measures (PPM) – Individual Countermeasures
- Reference Guide for this Briefing



**This guide is for use by all active/reserve component military, civilian, retiree, and contractor personnel. Any individual who trains and prepares for, or participates in any type of military operation should keep and refer to this guide.**

# PREPARING TO DEPLOY

- Medical, Dental & Vision Screening (Soldier Readiness Processing)
- Prepare clothing and gear and personal hygiene items
- Immunizations

**SOLDIER HEALTHCARE  
READINESS**

**During medical screening, discuss prescribed medications with the examiner; obtain at least 45-day supply of medications**

# PREPARING TO DEPLOY

## ADDITIONAL PACKING ITEMS:

- Cotton underwear (10 changes)
- Birth control supplies
- Personal Hygiene Products
- Anti-fungal cream/powder & shower shoes
- Insect repellent, sunscreen, eye and hearing protection, lip balm, skin lotion



**If you need medications or hygiene items which may not be available through normal supply systems, obtain enough for the duration of the operation**



# PREPARING TO DEPLOY FEMALE CONSIDERATIONS

- Birth control pills
- Feminine Hygiene Products (non-deodorant tampons, sanitary napkins, panty liners; menstrual cramp reliever)
- Yeast infection medication (two courses of vaginal treatment)
- Portable Urinary Device
  - For use by female personnel to reduce time needed to urinate and resolve privacy issues when latrines are not available (convoys, field operations) NSN: 8530-01-470-2805

**If using birth control pills, continue as prescribed to regulate menstrual cycles and avoid problems resulting from inconsistent use**

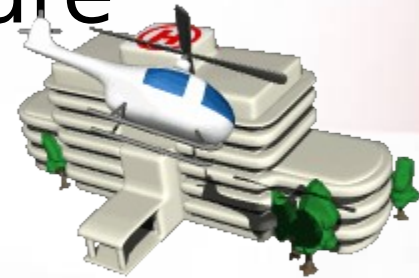
# MILITARY VACCINE RECOMMENDATIONS

- Tetanus-diphtheria (Td) if no booster within the past 10 years
- Hepatitis A
- Hepatitis B for those at risk with direct blood and body fluid exposures
- Influenza (during flu season)



# DEPLOYMENT HEALTH CARE

- Know where to seek health care when deployed
- May or may not be through same channels as your home station
- Maintain your health and seek care whenever an illness or injury occurs





# FIELD SANITATION TEAM

- Field Sanitation Teams (FST) train unit personnel in Preventive Medicine Measures (PMM) and advise the commander and unit leaders on implementation of unit-level PMM.
- Know who the members of your Field Sanitation Team are PRIOR to deployment
- The FST can assist in preventing medical threats to your health
- Deploy with all FST equipment



**Failure to apply PMM increases the risk of mission failure**

# PERSONAL PROTECTIVE MEASURES

- Wash hands frequently
- Do not rub eyes or inside of nose with bare finger(s)
- Bathe/shower regularly (field expedients will do); use unscented products
- Wear shower shoes to prevent athlete's foot
- Dry thoroughly after showering
- Sleep head-to-toe if billeted in common areas
- Wear clean, dry uniforms; change socks daily and uniform at least weekly
- Do not wear nylon or silk undergarments; cotton undergarments are more absorbent and allow the skin to dry
- Seek prompt medical care if problem exists



# SEXUAL ACTIVITY

- Abstinence is the only 100% effective method for preventing sexually transmitted diseases
- Choose an effective method of birth control
  - Always use condoms during sex – regardless of other measures you choose. Using latex condoms during each sexual encounter provides improved (not 100%) protection against STD's and pregnancy.





# ORAL HEALTH

- Deploy with:
  - Toothbrush
  - Dental Floss
  - Fluoride Toothpaste
- Brush twice-daily
  - Daily in difficult tactical environments
- Floss daily
- Seek medical attention at the onset of any dental problems



# NUTRITION

- Drink fluids regularly (hourly fluid intake should not exceed 1.5 quarts, daily fluid intake should not exceed 12 quarts)
- Maintain weight; do not avoid food or attempt weight loss during a deployment
- Work in cold weather can increase energy needs by 10-25%
- Operations in high-altitude areas can increase energy needs by 50% or more



# SPIRITUAL HEALTH

- Maintain personal prayer/meditation
- Obtain and read wholesome religious/spiritual literature
- Attend religious/spiritual group discussions/studies
- Process anger, fear, anxiety & guilt through personal & group spiritual/religious activities
- Keep in touch with spiritual advisors/chaplains





# SMOKING

- March – August 2003: 19 cases of severe pneumonia in service members deployed to Southwest Asia
  - 16 smokers, 8 *began smoking during the deployment*
  - Two pneumonia deaths
- January 2004: 2 new severe cases of pneumonia
  - *Both began smoking during this deployment*



**If you don't smoke, don't start during a deployment.  
If you do smoke, quit.**

# STRESS



- Operational stressors
- Different types and intensities
- Recognize the symptoms of depression
- Seek or encourage help
- Take steps to reduce operational stress

**Stress can be intensified for personnel who are exposed to or observe human suffering and/or death**

# IMPROVE RESISTANCE TO STRESS

- Fear and physical signs or symptoms of stress are normal reactions before and during combat or other dangerous/life-threatening situations
- Talk about what is happening with your buddies
- Learn ways to relax quickly
- Quickly integrate new replacements
- If you must join a new group, be active in establishing friendships
- Give each other moral support
- Care for your buddies and work together



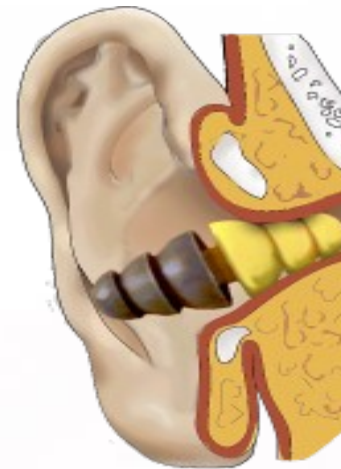
# HEARING CONSERVATION



- Loud noise causes permanent hearing loss

## COUNTERMEASURES

- Have your hearing protection with you at all times and use it
- Be sure your ear plugs, noise muffs or helmets fit properly and are in good condition
- Avoid noise or limit time around noise to only critical tasks



Combat Arms  
Earplug

NSN 6515-01-  
466-2710

**If you have to raise your voice to be understood,  
it is too noisy.**

**Put on hearing protection.**

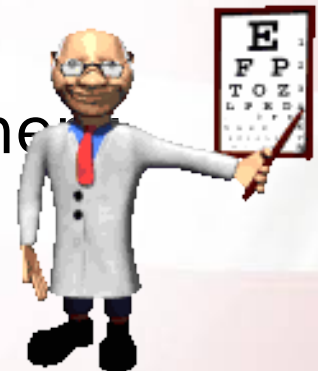


# VISION CONSERVATION

- **Preventive Measures and Eye Protection**
  - Contact lens use is prohibited for use in environments where exposure to smoke, toxic chemical vapors, sand, or dust occurs
  - If required, maintain 2 pair of glasses and 1 protective mask insert
  - Use eye protection when in any potentially eye hazardous environment
    - Safety goggles or spectacles with side shields\*
    - Chemical splash goggles\*



\*(ANSI Z87.1 approved)



**Vision Ready is  
Mission Ready!**

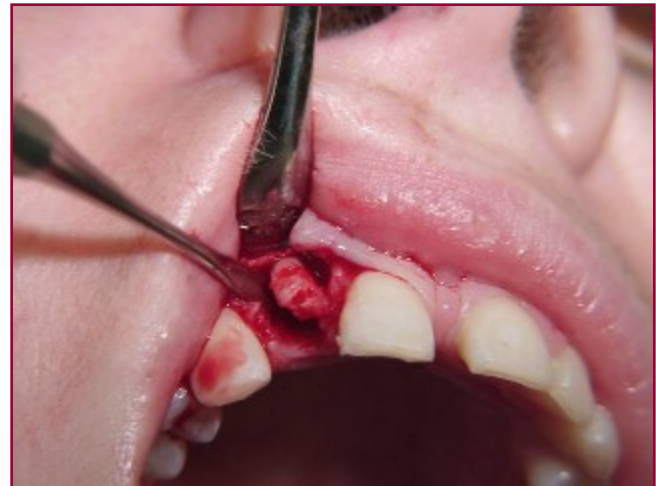
# MOUTH GUARDS

**Use This**



**OR**

**Lose These**



# WEATHER INFORMATION

## MAY-OCT

### NOV-APR

**MAX HIGHS**

117-105 F

91-90

F

**AVG HIGHS**

104-83

79-60

**MAX LOWS**

55-40

31-08

**AVG LOWS**

72-55

50-36

**MAX WINDS**

68-82 MPH

10-14

MPH

25

# HEAT INJURY PREVENTION

- Heat Cramps, Exhaustion, or Stroke

## COUNTERMEASURES

- Drink fluids continuously (hourly fluid intake should not exceed 1.5 quarts, daily fluid intake should not exceed 12 quarts)
- Maintain acclimatization
- Protect yourself from exposure to sunlight and wind
- Maintain good physical condition
- Establish work/rest schedules
- Wear proper clothing
- Participate in training



**You should receive annual unit training on prevention of heat injury. Heat injuries are preventable!**



# HEAT

**H:** Heat category – WBGT Index

**E:** Exertion level (prior 3 days)

**A:** Acclimatization

**T:** Tables – Water/Work/Rest

**REMEMBER**

**Water requirements are not reduced by any form of training or acclimatization.**

**Units which have soldiers who do not drink because they do not have opportunities to urinate have a leadership problem.**



# Work/Rest and Water Consumption Table

*Applies to average sized, heat-acclimated soldier wearing BDU, hot weather. (See TB MED 507 for further guidance.)*

Easy Work	Moderate Work	Hard Work
<ul style="list-style-type: none"> <li>• Weapon Maintenance</li> <li>• Walking Hard Surface at 2.5 mph, &lt; 30 lb Load</li> <li>• Marksmanship Training</li> <li>• Drill and Ceremony</li> <li>• Manual of Arms</li> </ul>	<ul style="list-style-type: none"> <li>• Walking Loose Sand at 2.5 mph, No Load</li> <li>• Walking Hard Surface at 3.5 mph, &lt; 40 lb Load</li> <li>• Calisthenics</li> <li>• Patrolling</li> <li>• Individual Movement Techniques, i.e., Low Crawl or High Crawl</li> <li>• Defensive Position Construction</li> </ul>	<ul style="list-style-type: none"> <li>• Walking Hard Surface at 3.5 mph, ≥ 40 lb Load</li> <li>• Walking Loose Sand at 2.5 mph with Load</li> <li>• Field Assaults</li> </ul>

- The work/rest times and fluid replacement volumes will sustain performance and hydration for at least 4 hrs of work in the specified heat category. Fluid needs can vary based on individual differences ( $\pm \frac{1}{4}$  qt/hr) and exposure to full sun or full shade ( $\pm \frac{1}{4}$  qt/hr).

- **NL** = no limit to work time per hr.

- **Rest** = minimal physical activity (sitting or standing) accomplished in shade if possible.

- **CAUTION: Hourly fluid intake should not exceed 1½ qts.**

*Daily fluid intake should not exceed 12 qts.*

- If wearing body armor, add 5°F to WBGT index in humid climates.

- If doing Easy Work and wearing NBC (MOPP 4) clothing, add 10°F to WBGT index.

- If doing Moderate or Hard Work and wearing NBC (MOPP 4) clothing, add 20°F to WBGT index.

Heat Category	WBGT Index, F°	Easy Work		Moderate Work		Hard Work	
		Work/Rest (min)	Water Intake (qt/hr)	Work/Rest (min)	Water Intake (qt/hr)	Work/Rest (min)	Water Intake (qt/hr)
1	78° - 81.9°	NL	$\frac{1}{2}$	NL	$\frac{3}{4}$	40/20 min	$\frac{3}{4}$
2 (GREEN)	82° - 84.9°	NL	$\frac{1}{2}$	50/10 min	$\frac{3}{4}$	30/30 min	1
3 (YELLOW)	85° - 87.9°	NL	$\frac{3}{4}$	40/20 min	$\frac{3}{4}$	30/30 min	1
4 (RED)	88° - 89.9°	NL	$\frac{3}{4}$	30/30 min	$\frac{3}{4}$	20/40 min	1
5 (BLACK)	> 90°	50/10 min	1	20/40 min	1	10/50 min	1

For additional copies, contact: U.S. Army Center for Health Promotion and Preventive Medicine Health Information Operations Division at (800) 222-9698 or CHPPM - Health Information Operations@apg.amedd.army.mil.

For electronic versions, see <http://chppm-www.apgea.army.mil/heat>. Local reproduction is authorized.

June 2004



CP-033-0404

# SUNBURN

- Prevent overexposing skin and eyes to solar radiation and wind

## COUNTERMEASURES

- Use sunscreen and lip balm
- Use protective eyewear
- Limit exposure
- Cover nose and mouth to limit drying



**Sunburn reduces soldier readiness and increases the likelihood of skin cancer.**

# COLD INJURY PREVENTION

- Hypothermia, Frostbite, Chilblains

## COUNTERMEASURES

- When possible, remain inside warming tents/buildings and drink warm, uncaffeinated liquids for relief from the cold
- If working outside or on guard duty, insulate yourself from the ground and wind. Rotate duty as frequently as mission allows.
- Properly wear the Extended Cold Weather Clothing System



**You should receive annual unit training on prevention of cold injury**



# COLDER

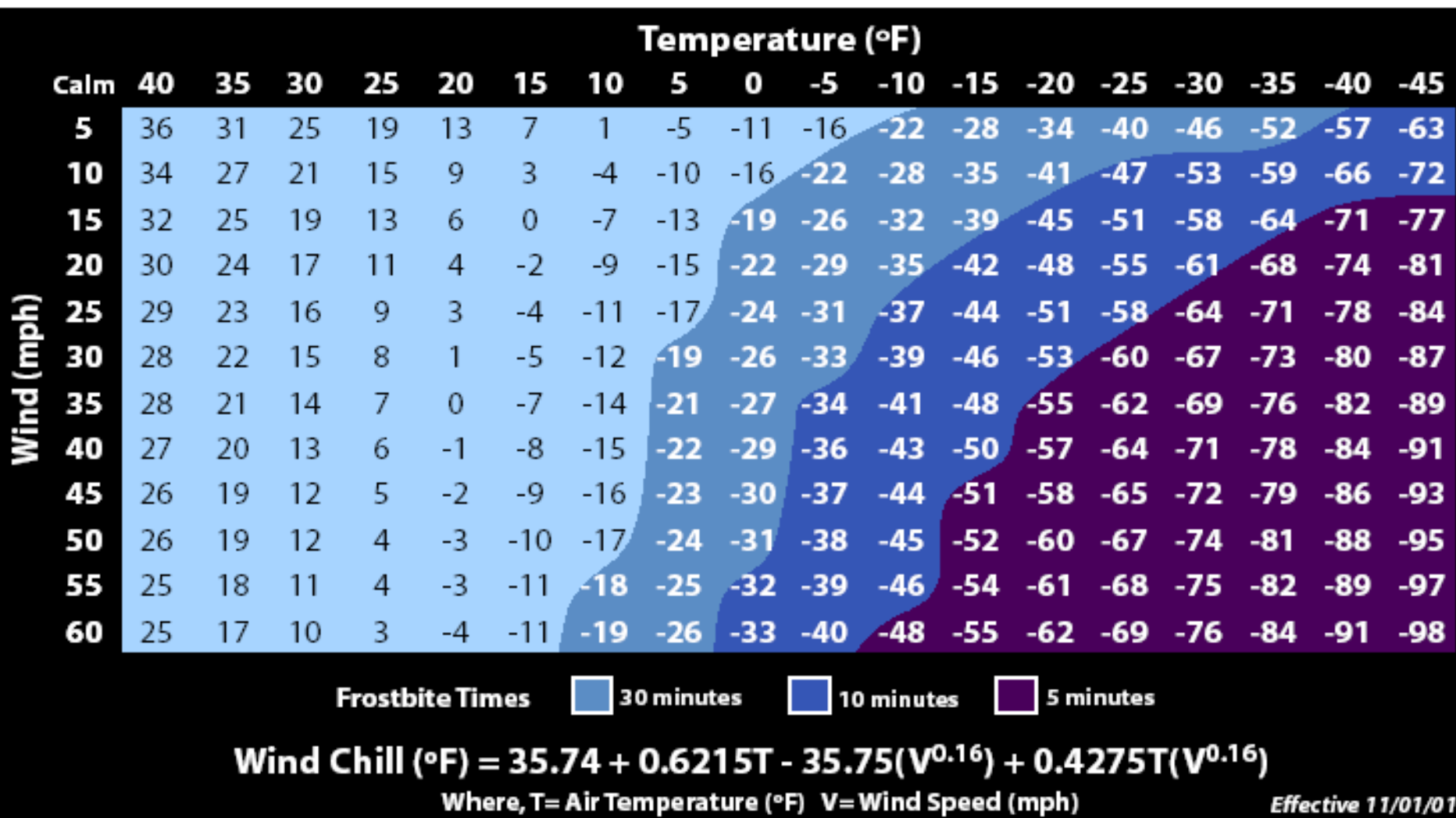
- C:** Keep clothing Clean
- O:** Avoid Overheating.
- L:** Wear clothing Loose and in layers
- D:** Keep clothing as Dry as possible
- E:** Examine clothing (holes, tears, broken fasteners)
- R:** Repair or replace damaged clothing



**Notify your first-line supervisor if you have had a previous cold injury. Use the buddy system.**



# Wind Chill Chart



**WET SKIN CAN SIGNIFICANTLY DECREASE THE TIME FOR FROSTBITE TO OCCUR**

# CARBON MONOXIDE

- Carbon monoxide (CO) is a colorless, odorless, and tasteless gas produced by engines, stoves, and gas/oil heaters.
- CO replaces oxygen in the body, causing headache, sleepiness, coma, and death.

## COUNTERMEASURES

- Keep sleeping area windows slightly open for ventilation and air movement.
- DO NOT sleep in vehicles with the engine running or use engine exhaust for heat.
- DO NOT park vehicles near air intakes to tents, trailers, or environmental control units.



**Do not use unapproved commercial off-the-shelf heaters. Check with your unit Safety Officer.**

# SAND, DUST, AND WIND

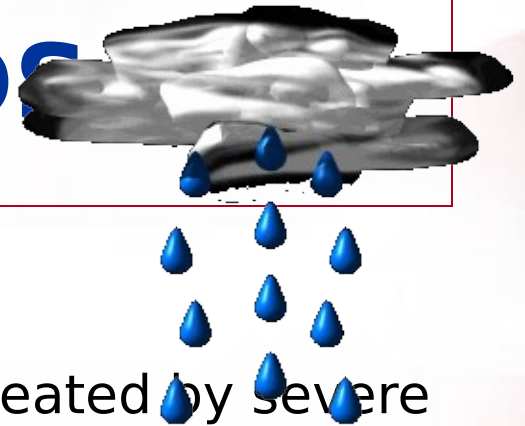
- Sand, wind, and dust cause health problems, particularly to skin, eyes, throat and lungs
- High winds create flying object hazards which may not be visible in blowing sand or dust
- Wash daily, especially body areas that collect dust and sand
- Protect lips with lip balm and use moisturizing skin lotion on your hands to prevent cracked, chapped fingers
- Shield your face with cloth materials to protect from blowing dust and sand
- Protect your eyes







# FLASH FLOODS



## HAZARD

The Mojave Desert has deep wadis created by severe rainstorms. Desert terrain does not have the capacity to absorb much water. As it rains, the runoff can become considerable and flash floods occur. The rainfall does not have to occur on the reservation to produce runoff sufficient for major flooding.

## COUNTERMEASURES

Do not park, sleep, or remain in wadis or ravines during wet weather. Do not attempt to cross flooded areas. Avoid standing water and upper elevations to minimize the possibility of encountering ground strikes from lightning.

# WATCH WHAT YOU DRINK

- WHEN ON-SITE

- Just because it comes out of a faucet does not mean it is safe!
- Only drink and fill-up canteen from approved sources
- Be prepared to disinfect water in emergency situations



# INJURY PREVENTION

- Accidental injury is a top diagnosis during most deployments
- Slips, Trips, and Falls
- Sharp/Hot Objects
- Falling Objects
- Vehicle Safety
- Electrical Safety
- Back Safety





# FOOT CARE

Protect your feet by:

- keeping feet clean and dry
- change socks at least every 8 hours or whenever wet and apply foot powder
- bring extra boots to field - alternate boots from day to day to allow boots to dry.
- seek medical care at the first sign of any problems



# **WILDLIFE**

- **Poisonous snakes, spiders, scorpions, insects, and large wild animals indigenous to the Mojave Desert are abundant on the reservation**
- **Bobcats and coyotes are found on all parts of the reservation and roam freely in the cantonment area**

## **COYOTES & BOBCATS**

- **Both bobcats and coyotes have been known to attack soldiers when threatened**
- **Soldiers must leave wildlife alone. Do not feed desert wildlife. Feeding wildlife will cause them to lose their natural fear of humans and may cause them to become aggressive.**
- **Anyone bitten should carefully cleanse the wound and immediately seek medical help. Coyote bites are treated for potential rabies infection.**

# POISONOUS SNAKES

- ***A snake bite is a serious life threatening condition. The victim will experience severe pain followed by a rapid swelling and discoloration in the area of the bite.***
- ***The victim of a snake-bite, who does not receive medical treatment may experience shock, weakness, paralysis, and possible respiratory failure. Death can occur within the first 24 hours.***

## COUNTERMEASURES

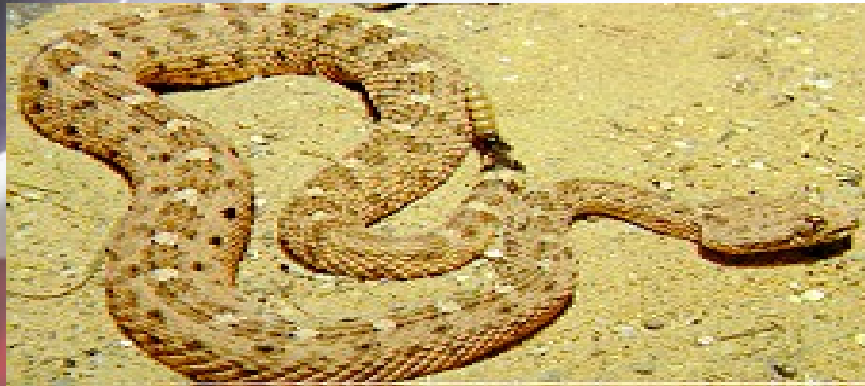
- ***During daylight hours, snakes prefer rocky habitats and will generally remain in shaded areas or hide in burrow.***
  - ***Soldiers should be alert when operating*** 41
- dismounted in these areas. At night, snakes will***



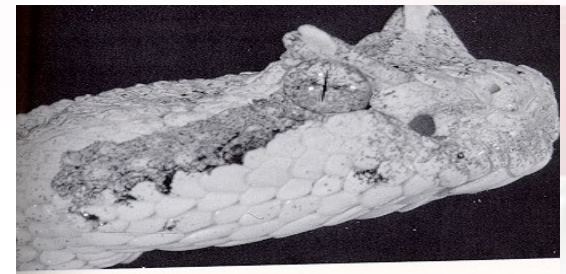
# POISONOUS SNAKES



Mojave Green rattlesnake  
(*Crotalus scutulatus*)



Sidewinder rattlesnake  
(*Crotalus cerastus*)



Speckled rattlesnake  
(*Crotalus mitchellii*)





# NON-POISONOUS SNAKES



Gopher snake  
(*Pituophis melanoleucus*)

Coachwhip \Red Racer snake (*Masticophis flagellum*)



# **POISONOUS SNAKES**

## **IF A SOLDIER IS BITTEN BY A SNAKE**

- Remember the snake markings and color
- Kill the snake for identification purposes, if you can.

**This is very important to medical personnel in order to diagnose the type of bite and prescribe treatment for the patient.**

- Sit the patient in the shade. Do not let the victim stand or walk around.
- Keep the patient as calm and comfortable as possible.
- Immobilize the wounded extremity.
- Place a strap or belt snugly above the bite. Tighten the strap around the limb to retard the blood flow but do not stop the pulse.
- DO NOT elevate the bitten extremity.
- MEDEVAC the patient as soon as possible.



# INSECTS

Giant hairy scorpion  
(Hadrurus)



Tarantula hawk

Blister beetle (Hemipepsis)  
(Lytta magister)



Black Widow spider  
(Latrodectus)

Desert Tarantula  
(Aphonopelma calcodes)



Sun spider  
(Eromobates pallipes)

# PERSONAL PROTECTIVE MEASURES



**Permethrin  
On  
Uniform**



**DEET On  
Exposed  
Skin**



**Properly  
Worn  
Uniform**

**MAXIMUM  
~~PRO~~TECTION**

**DOD Insect Repellent System**



# INSECT REPELLENTS FOR SKIN AND CLOTHING

## DEET lotion



NSN 6840-01-284-  
2002



- Apply a thin coat to **EXPOSED** skin
- One application lasts up to 12

## Permethrin

- Individual Dynamic Absorption Kit (IDA)

- Treatment lasts for  
for over 50  
laundrerings



NSN 6840-01-278-  
1336



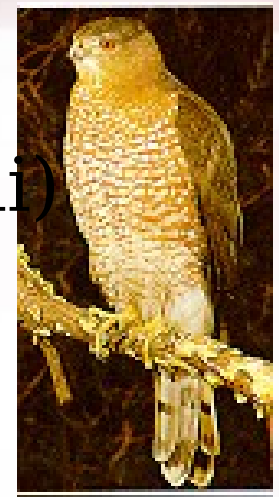
NSN 6840-01-345-  
0237

- Aerosol spray can
- Treatment lasts through 5-6 washes



Bobcat  
(*Felis rufus*)

Coopers hawk  
(*Accipiter cooperii*)



Badger  
(*Taxidea taxus*)

Western Banded Gecko  
(*Coleonyx variegatus*)



Chuckwalla  
(*Sauromalus obesus*)



Chuckar  
(*Alectoris chukar*)

# DESERT TORTOISE

- The desert tortoise is a federally threatened species



- There is a \$50,000.00 fine

and/or one year jail

Accidents do happen. Don't hide it,

term for  
**REPORT IT!**

**knowingly** harming or

If you see a tortoise in danger:

harassing a desert

- Contact an OC or Range control

tortoise

- If not available, move it to shade and



# **DISPOSAL OF REGULATED MEDICAL WASTE**

- **Medical waste must be contained and stored separately from other waste at point of origin.**
- **Biohazardous waste shall be contained in biohazard bags (3-mil thickness).**
- **Sharps waste will be placed in rigid, puncture-resistant, leak-resistant containers, and labeled “Biohazard”, or “Infectious Waste”.**
- **Red Biohazard bags shall be securely tied and placed in rigid containers for storage, handling, and transport.**
- **Transportation of Regulated Medical Waste in a P.O.V. on Fort Irwin is unauthorized and punishable by state and local fines.**
- **All regulated Medical waste will be turned-in to Weed Army Community Hospital through the Facilities Department; P.O.C. is Facilities Manager at DSN 470-3994/5214, or Commercial at (760) 380-3994/5214. Alternate P.O.C. is the Environmental Science Officer at (760) 380-5328/3235, or DSN 470-5328/3235.**



# POST DEPLOYMENT



- Receive post-deployment preventive medicine briefing
- Receive post-deployment screening, testing, and follow-up

# POST DEPLOYMENT

- Continue to seek counseling from Chaplain or medical personnel
- Homecoming Stress
  - Don't expect things to be exactly the same, especially if long deployment
  - Ease back into roles; don't rush it
  - Children may be withdrawn
  - Spouse may be moody or depressed
  - Financial and property issues may require immediate attention



# SUMMARY

- Review of *Deployment Health Guide*
- Preparation for Deployment
- Deployment
- Medical Threat
- Post Deployment



# CONCLUSION

- Health threat awareness and implementation of associated countermeasures discussed in the briefing are critical to all military missions (including combat, support, and sustaining base military and civilian forces). Apply this information during all phases of military operations, including training, pre-deployment, deployment, and post-deployment.







# Contact Your Local Preventive Medicine Service or Medical Support Unit for Additional Information



Prepared by:  
U.S. Army Center for Health Promotion and Preventive  
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(800) 222-9698/ DSN 584-4375/(410) 436-4375

<http://usachppm.apgea.army.mil>